BLASTOBASINE COLEOPHORID MOTHS AS PREY FOR THE AUSTRALIAN ARANEID SPIDER *CELAENIA CALOTOIDES* RAINBOW. *Memoirs of the Queensland Museum 49(1): 28. 2003:-* The Australasian araneid *Celaenia* Thorell, and species of *Ordgarius* Keyserling, *Cladomelea* Simon and *Mastophora* Holmberg ('bolas' spiders), have unique life-history strategies. As older juvenile and adult females, all are thought to be obligate predators of Lepidoptera, using complex chemical mimicry of female sex pheromones to attract male moths of only a few species (Eberhard, 1977; Stowe et al., 1987; Yeargan, 1988, 1994; Haynes et al., 1996). Young juveniles and males of some taxa also attract male nematoceran Diptera (Eberhard, 1980; Yeargan & Quate, 1996, 1997). Stowe et al. (1987) showed that 3 molecules released by *M. cornigera* (Hentz) ([Z]-9-tetradecenyl, [Z]-9-tetradecenal & [Z]-11-hexadecenal) are identical to sex pheromone components of some prey moth species. Gemeno et al. (2000) showed that *M. hutchinsoni* Gertsch females produce an allomone blend that mimics, in both composition and blend ratio, the sex pheromone of the noctuid moth *Lacinipolia renigera* (Stephens). Web reduction is characteristic of this group with a single line of sticky silk used to capture flying moths. In *Celaenia* no web snare is made, and moths are grasped directly with the enlarged, spined legs I and II (pers. obs.).

Of 11 species of *Celaenia* (7 from Australia), few specific prey records are available (Table 1). Notes on *C. kinbergi* are listed under *C. excavata* L. Koch, the senior synonym. Roberts (1937) collected several moths dropped by a female *C. excavata*, and suggested 'olfactory attraction' may be involved, but did not identify any taxa. Mascord (1980) reported that a female of *C. excavata* captured 43 male moths 'of one species' in one month.

Observations of two juvenile and one adult female *C. calotoides* Rainbow, 1908 were maintained over five weeks during the Spring of 2002, in Brisbane. Cardboard trays and paper bags were set up as receptacles under the spiders to catch dropped prey items. The female (5mm long; with egg sacs) was observed for 39 days (5 Oct.-13 Nov.). Similarly, an older juvenile (2.5mm long) was observed for 30 days (14 Oct.-13 Nov.) along with a small juvenile (1.5mm long, after having hatched out of the female's first egg sac on 20 Oct.), the latter observed for 12 days between November 1-13. All specimens were observed as they were found, in-situ in a suburban garden (27°30'53"S 153°04'06"E).

After laying its third egg sac on 7-8 Oct., the adult female *C. calotoides* captured three male *Blastobasis* Zeller (Gelechioidea, Coleophoridae, Blastobasinae) (Table 2). The larger juvenile spider captured four *Blastobasis* moths during the study period. The small newly-hatched juvenile spider caught one moth during the study period, and this too was a *Blastobasis* species. All specimens appear to be conspecific (although the genitalia of some were damaged by the spiders whilst feeding), and further observations of moths attracted to house lights in the area revealed the presence of a single, very common species (based on the uniform morphology of the males' genitalia). These data provide the first evidence of a gelechioid moth being targeted by a species of *Celaenia*, and the first record of a newly-hatched juvenile feeding on a lepidopteran (as opposed to a dipteran) after emergence from the egg sac.

Moths referred to herein are lodged at the Queensland Museum, with the adult female *C. calotoides* (QM S60739).

TABLE 1. Published prey records for spiders in *Celaenia*.

Spider	Loc.	Prey	Reference
Adult ♀ *C. excavata*	Qld, Aus.	*Spodoptera mauritia* (Lepidoptera, Noctuoidea, Noetuidae, Amphipyrinae)	Zillman, 1988
Adult ♀ *Celaenia* sp.	NZ	'Tortrix moths' (Lepidoptera, Tortricoidea, Tortricidae)	Forster & Forster, 1999
Juvenile *Celaenia* sp.	NZ	'Moth flies' (Diptera, Nematocera, Psychodoidea, Psychodidae)	Forster & Forster, 1999
Adult ♀ *C. distincta*	Tas., Aus.	'Night-flying moths'	Hickman, 1970
Adult ♀ *C. atkinsoni*	Tas., Aus.	'Small moths'	Hickman, 1970

TABLE 2. Moth prey (*Blastobasis* sp.) records for adult and juvenile *C. calotoides* in Brisbane. Length is taken longitudinally from head to wing tips, after specimens had been wrapped with silk by spiders.

Prey moth ref.	Spider	Length	Date captured
A1	♂ adult	8.5mm	11-12/10/02
A2	♂ adult	7.0mm	9-10/11/02
A3	♂ adult	7.5mm	12-13/11/02
J1	♂ older juvenile	5.5mm	22/10/02
J2	♂ older juvenile	5.5mm	24/10/02
J3	♂ older juvenile	5.0mm	1-2/11/02
J4	♂ older juvenile	6.5mm	5/11/02
B1	♂ small juvenile	6.0mm	11/11/02

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